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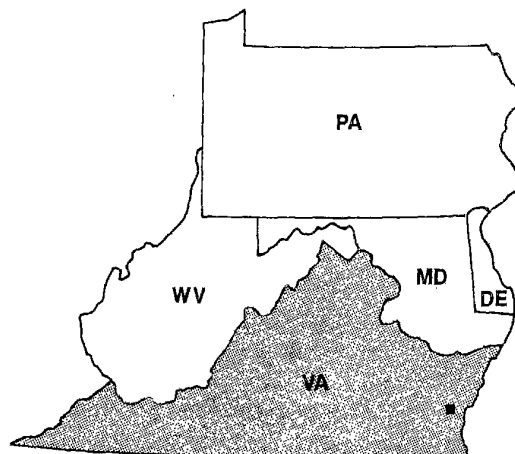
Research and Development



AERIAL PHOTOGRAPHIC ANALYSIS USN SUPPLY CENTER - CHEATHAM ANNEX

Williamsburg, Virginia

EPA Region 3



01.08-05/01/98-00145

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AERIAL PHOTOGRAPHIC ANALYSIS
USN SUPPLY CENTER - CHEATHAM ANNEX

Williamsburg, Virginia

by

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ABSTRACT

This report presents the results of an aerial photographic analysis of historical aerial photographs of the USN Supply Center--Cheatham Annex located near Williamsburg, Virginia. Nine dates of black-and-white and color infrared photographs (1937, 1942, 1955, 1960, 1963, 1969, 1975, 1989, and 1998) were used to analyze the site. Environmentally significant hazardous waste-related features and conditions are identified. The purpose of this report is to provide remote sensing support to field investigations in Region 3 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Through field investigations at the Cheatham Annex site, twelve Areas of Concern (potential sources of contamination) were observed. In this aerial photographic analysis, 7 of the 12 were located and significant changes throughout the study period (1937-1998) were documented. Other significant features identified in this analysis at the annex included a possible dump adjacent to Queen Creek; possible disposal areas near Areas of Concern 1 and 11 and Buildings 13 and 40; and mounded material adjacent to Building 16.

Prior to construction of the Cheatham Annex, the Penniman Ammunitions Plant was operational and produced munitions for World War I. On the 1937 photographs, old roadways, railspurs, revetments, buildings, and building foundations of the Penniman Plant are identified and documented.

The U.S. Environmental Protection Agency (EPA), Environmental Sciences Division, Landscape Ecology Branch in Las Vegas, Nevada, prepared this report for the EPA Region 3 Hazardous Waste Management Division in Philadelphia, Pennsylvania, and the EPA Office of Emergency and Remedial Response in Washington, D.C.

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INTRODUCTION

This report presents the results of an aerial photographic analysis of historical aerial photographs of the USN Supply Center - Cheatham Annex located near Williamsburg, Virginia (Figures 1 and 2). Nine dates of black-and-white and color infrared photographs (1937, 1942, 1955, 1960, 1963, 1969, 1975, 1989, and 1998) were used to analyze the site. Environmentally significant hazardous waste-related features and conditions were identified. The purpose of this report is to provide remote sensing support to field investigations in Region 3 under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The CERCLIS ID# of this site is VA3170024605.

The 639 hectare (1,579 acres) annex consists of two separate subsites (designated within this report as the eastern and western portions of the site). The annex is situated on the York-James Peninsula and is characterized by rolling forested hills, wetlands, agricultural fields, and natural grassland areas. Surface drainage flows primarily north through Cheatham Pond to the York River, east into Penniman Lake, and through small tributaries that directly flow into Queen Creek and the York River.

Background information provided by the Region (EPA 1997) discusses 12 Areas of Concern (AOCs), which are potential sources of contamination present within the annex. Seven of these AOCs are located and documented in this report. The remaining five were not located due to lack of visible features on the photographs. The following is a list of the AOCs. Those denoted with an asterisk were located and significant features and changes observed in these areas were documented.

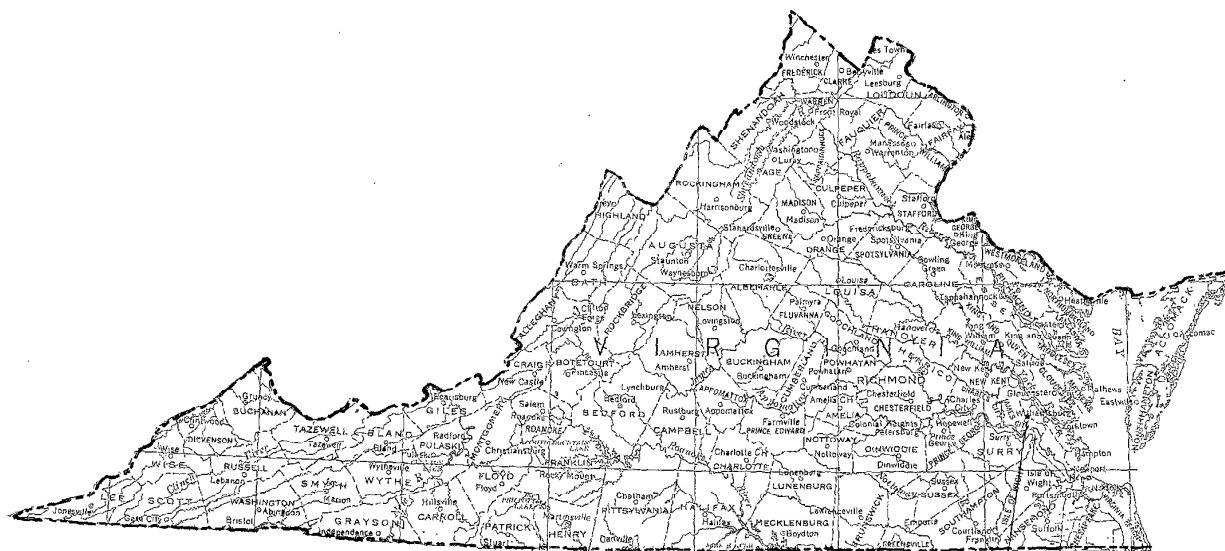
- | | |
|--|--|
| 1 - Landfill near Incinerator* | 7 - Old Dupont Disposal Area |
| 2 - Contaminated Food Disposal Area* | 8 - Landfill near Warehouse 14* |
| 3 - Submarine Dye Disposal Area* | 9 - Transformer Storage Area |
| 4 - Medical Supplies Disposal Area* | 10 - Decontamination Agent Disposal Area |
| 5 - Photographic Chemicals Disposal Area | 11 - Bone Yard* |
| 6 - Spoiled Food Disposal Area | 12 - Disposal Site near Water Tower* |

Other features of environmental significance identified during analysis are also described in this report. Prior to construction of the Cheatham Annex, the Penniman Ammunitions Plant was operational and produced munitions for World War I. In the 1937 photographs old roadways, railspurs, revetments, buildings, and building foundations of the old Penniman Plant were identified and documented.

Location of the AOCs and other significant features related to the Cheatham Annex that were observed on more than one year of photographs are indicated on Figure 2 along with the dates of observation, eg., 1955-1975. An additional overlay depicts the location of the eight 1998 large-scale photographs included in this report. A summary of the results of analysis of the AOCs and other significant features is presented in the Analysis Summary Section.

A glossary, defining features or conditions identified in this report, follows the analysis section. Sources for all maps, aerial photographs, and collateral data used in the production of this report are listed in the References section. A list of all aerial photographs that were identified and evaluated for potential application to this study can be obtained by contacting the EPA Work Assignment Manager.

The U.S. Environmental Protection Agency (EPA), Environmental Sciences Division, Landscape Ecology Branch in Las Vegas, Nevada, prepared this report for the EPA Region 3 Hazardous Waste Management Division in Philadelphia, Pennsylvania, and the EPA Office of Emergency and Remedial Response in Washington, D.C.



USN SUPPLY CENTER -
CHEATHAM ANNEX



Figure 1. Study area location map, Virginia (USGS 1972). Approximate scale 1:2,950,000.

METHODOLOGY

This report was prepared using a standard methodology that includes the following steps:

- data identification and acquisition,
- photographic analysis and interpretation, and
- graphics and text preparation.

These steps are described below. Subsections also address details related to specific kinds of analyses that may be required to identify environmental features such as surface drainage and wetlands. All operational steps and processes used to perform this work including data identification and acquisition; photographic analysis and interpretation; and graphics and text preparation adhere to strict QA/QC guidelines and standard operating procedures (SOPs) which are documented in the Master Quality Assurance Project Plan (QAPP) for the Remote Sensing Technical Support Contract, 68-C5-0065 (LESAT 1998).

Data identification and acquisition included a search of government and commercial sources of historical aerial photographs to identify and obtain photographs with optimal spatial and temporal resolution and image quality for the study area. In addition, U.S. Geological Survey (USGS) topographic maps were obtained to show the study area location and to provide geographic and topographic context.

To conduct this analysis, the analyst obtained diapositives (transparencies) of historical aerial photographs showing the study area. Diapositives are most often used for analysis instead of prints because the diapositives have superior photographic resolution. They show minute details of significant environmental features that may not be discernible on a paper print.

A photographic analyst uses a stereoscope to view adjacent, overlapping pairs of diapositives on a backlit light table. In most cases, the stereoscope is capable of various magnifications up to 60 power. Stereoscopic viewing involves using the principle of parallax (observing a feature from slightly different positions) to observe a three-dimensional representation of the area of interest. The stereoscope enhances the photo interpretation process by allowing the analyst to observe vertical as well as horizontal spatial relationships of natural and cultural features.

The process of photographic analysis involves the visual examination and comparison of many components of the photographic image. These components include shadow, tone, color, texture, shape, size, pattern, and landscape context of individual elements of a photograph. The photo analyst identifies objects, features, and "signatures" associated with specific environmental conditions or events. The term "signature" refers to a combination of components or characteristics that indicate a specific object, condition, or pattern of environmental significance. The academic and professional training, photo interpretation experience gained through repetitive observations of similar features or activities, and deductive logic of the analyst as well as background information from collateral sources (e.g., site maps, geologic reports, soil surveys) are critical factors employed in the photographic analysis.

The analyst records the results of the analysis by using a standard set of annotations and terminology to identify objects and features observed in the diapositives. Significant findings are annotated on overlays attached to the photographs in the report and discussed in the accompanying text. Annotations that are self-explanatory may not be discussed in the text. The annotations are defined in the legend that accompanies each photograph and in the text when first used.

Objects and features are identified in the graphics and text according to the analyst's degree of confidence in the evidence. A distinction is made between certain, probable, and possible identifications. When the analyst believes the identification is unmistakable (certain), no qualifier is used. Probable is used when a limited number of discernible characteristics allow the analyst to be reasonably sure of a particular identification. Possible is used when only a few characteristics are discernible, and the analyst can only infer an identification.

Photographic enlargements are used in this report. Although the enlargements allow effective display of the interpretive annotations, they also result in loss of photographic resolution. Therefore, some of the objects and features identified in the original image and described in the text may not be clearly discernible on the prints in this report.

Study area boundaries shown in this report were determined from aerial photographs or collateral data and do not denote legal property lines or ownership.

Surface Drainage

The surface drainage analysis produced for this report identifies the direction and potential path that a liquid spill or surface runoff would follow based on the topography of the terrain and the presence of discernible obstacles to surface flow. The analyst determines the direction of surface drainage by stereoscopic analysis of the aerial photographs and by examining USGS topographic maps. Site-specific surface drainage patterns are annotated on the map or photo overlay. Where the direction of subtle drainage cannot be determined, an indeterminate drainage line symbol is used. Regional surface flow is ascertained from the USGS topographic maps.

Color Infrared Photographs

Some photographs used for this analysis were made from color infrared film. Normal color film records reflected energy in the blue, green, and red portions of the electromagnetic spectrum. Color infrared film differs in that it is sensitive not only to reflected blue, green, and red energy, but also to reflected energy in the infrared portions of the electromagnetic spectrum; however, the blue energy is filtered out and only the green, red, and infrared energy is recorded. When color infrared film is processed, it displays "false" colors that do not correspond with the true colors of the features photographed. For example, features that are highly reflective in the infrared portion of the spectrum, such as healthy vegetation, appear red to magenta on color infrared film. The false color displayed by a feature is produced in accordance with the proportions of green, red, and infrared energy it reflects. These portions are referred to as the "spectral reflectance characteristics" of the feature. To interpret the true color of a particular feature accurately from color infrared film, a knowledge of the spectral reflectance characteristics of that feature is required. This information is not readily available for the majority of features identified in this report. Therefore, unless otherwise indicated, no attempt has been made to interpret the true colors of the features identified on the color infrared film analyzed for this report.

ANALYSIS SUMMARY

USN Supply Center - Cheatham Annex (Eastern Portion of Site)

In 1937 the Penniman Ammunitions Plant features included railways, roadways, revetments, buildings, and old building foundations. A large old possible dump was observed adjacent to Queen Creek. This feature may be AOC 7; however, according to background information, AOC 7 was located adjacent to the York River. No evidence of AOC 7 was observed near the York River.

In 1942 at the USN Supply Center--Cheatham Annex AOC 1 consisted of solid waste deposited on both sides of a small tributary that leads to the York River.

In 1955 railways, access roads, and buildings had been constructed throughout most of the site. AOC 1 was larger in extent compared to 1942 and it contained light- and dark-toned solid waste. A possible waste disposal area was noted south of Building 12. Many open storage areas were located throughout the site. Storage containers, propellers, vehicles, debris, and other unidentified items were observed in these storage areas. These areas continued to be present throughout the study period. AOC 2 was located north of Building 40 and consisted of mounded material and a trench. West of Building 40 was an area of revegetated disturbed ground and dark-toned material. AOC 11 was observed southeast of Sanda Avenue where a small enclosure was identified. West of AOC 11 were two possible waste disposal areas.

By 1960 AOC 1 was larger and contained dark-toned material. Adjacent to Building 11 was a probable waste disposal area. Because a previously observed (1955) possible waste disposal area adjacent to Building 12 did not revegetate by 1960 it was reclassified as a probable waste disposal area and identified as AOC 4 (Medical Supplies Disposal Area). At AOC 11 a large area of bare soil was seen.

In 1963 the areal and vertical extent of the landfill at AOC 1 increased. Both mounded material and revegetated mounded material were observed next to Building 11. At AOC 4 a new area of dark-toned material was evident. At AOC 8 north of Building 14 a shallow liquid-filled trench and excavated materials were noted. Two deposits of solid waste and a stain were present at AOC 11 and a new possible waste disposal area was seen to the south. The possible waste disposal areas to the west of AOC 11 had revegetated.

Solid waste was again present at AOC 1 in 1969. The extent of revegetated mounded material adjacent to Building 11 was larger than in 1963. An excavation adjacent to Building 13 was filled with light-toned material and a stain was also visible. AOC 4 next to Building 12 had become revegetated in 1969. The trench seen in 1963 at AOC 8 was no longer present. Possible solid waste was present in a field north of Building 14. Mounded material was present next to Building 16. At AOC 2, north of Building 40, revegetated mounded material and a possible trench were seen. Possible drums, stains, and standing liquid were present at AOC 11.

By 1975 AOC 1 was partially revegetated. The revegetated mounded material seen near Building 11 in 1969 was not visible. The excavation next to Building 13 is inactive. The possible solid waste north of Building 14 is not evident. AOC 3 (Submarine Dye Disposal Area) contained dark-toned material and staining. Mounded material next to Building 16 remained relatively unchanged. AOC 11 was apparently inactive.

In 1989 the areal extent of the landfill at AOC 1 increased and one small stain was evident. Dark-toned material was again present at AOC 3. Probable solid waste was noted adjacent to Building 16. Possible grading was noted west of Building 40. Dark-toned material was evident in the large open storage area southeast of Sanda Avenue.

In 1998, partial revegetation, bare soil, and standing liquid were observed at AOC 1. Adjacent to Building 30 were drums and dark-toned material. Drums and vertical tanks were observed between Buildings 12 and 13. Land clearing and mounded material were seen north of Building 14. Solid waste, bare moist soil, dark-toned material, debris, and drums were present adjacent to Building 16. In 1998 revegetated disturbed ground, solid waste, and dark-toned material were observed west of Building 40. Disturbed ground was first

observed there in 1955 and possible grading was noted in 1989. Disturbed ground was noted east of Building 40. Bare soil and an enclosure were evident at AOC 11, but the site continued to be inactive.

USN Supply Center - Cheatham Annex (Western Portion of Site)

By 1942 construction of a small railyard was underway. In 1955 three deposits of fill were observed at the railyard. South of the water tower, AOC 12 (Disposal Site Near Water Tower) consisted of a small mound of dark-toned material. By 1963 five mounds of fill were present in the railyard. One of these mounds was comprised of dark-toned material. The small mound of dark-toned material seen in 1955 at AOC 12 was not present. In 1975 five small mounds of fill were observed and by 1998 railroad tracks and the water tower had been dismantled. In 1998 no significant features were seen at AOC 12. No other significant features were observed within the western portion of the site.

PHOTO ANALYSIS

The USN Supply Center-Cheatham Annex is situated on the York-James Peninsula and in earlier years consisted of rolling forested hills, wetlands, agricultural fields, and natural grassland areas. Surface drainage flows primarily north through Cheatham Pond to the York River, east into Penniman Lake, and through small tributaries directly into Queen Creek and the York River.

For each set (year) of photographs, environmentally significant conditions and changes of each important feature are discussed. If an important feature or condition is not extant or no change has occurred since the last photographic date, no discussion is given. Should activity resume, the significant features and changes will again be discussed.

APRIL 17, 1937 (FIGURE 3)

USN Supply Center - Cheatham Annex, Eastern Portion

Penniman Ammunitions Plant Features Overlay

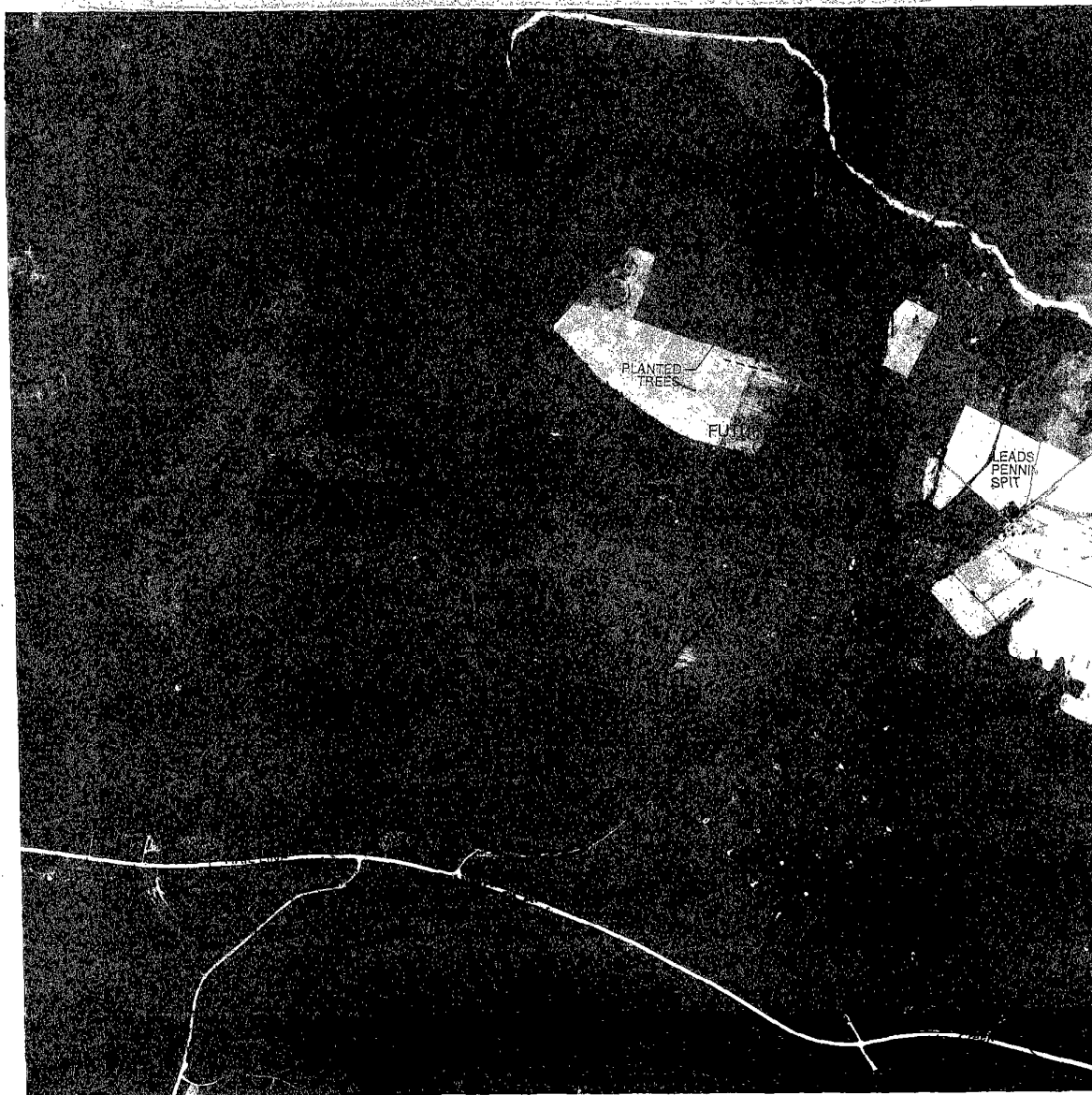
The areal extent of the old Penniman Ammunitions Plant, which manufactured munitions products for World War I (EPA 1997), is depicted on this photograph on a separate overlay from the USN Supply Center features. Operations at the ammunitions facility ceased shortly after World War I. Old access roads, railroads and railspurs, revetted buildings, building pads and footprints, and dumps are annotated.

In the Remedial Investigation Interim Document provided as background information (EPA 1997), AOC 7 (Old Dupont Disposal Area*) is depicted on the coastline of the York River. In the 1937 photograph, no visual evidence of a disposal area is observed at this location; however, a large possible dump is located adjacent to Queen Creek. An access road leads from a portion of the Penniman Plant to the possible dump.

*The Penniman Ammunitions Plant was owned and operated by Dupont de Nemours and Company.

USN Supply Center - Cheatham Annex, Eastern Portion Overlay

The future location of the eastern portion of the USN Supply Center is visible on this overlay of the photograph. The extreme eastern portion of the site is not covered by the 1937 photographs.



INTERPRETATION C

BOUNDARIES AND LIMITS

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITIES

- ==== VEHICLE ACCESSES
- + + + + RAILWAY

SITE FEATURES

- DIKE
- SL STANDING LIQUOR
- SL STANDING LIQUOR
- EXCAVATION, PI (EXTENSIVE)
- MOUNDED MATE (EXTENSIVE)
- MM MOUNDED MATE (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STAIN
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 3. USN Supply Center - Cheatham Annex, eastern portion, April 17, 1937. Approximate scale 1:13,220.

OCTOBER 1, 1942 (FIGURE 4)

AOC 1 (Landfill Next to Incinerator) is visible adjacent to a small tributary that flows into the York River. Solid waste (SW) is present on both banks of the tributary. In 1942, land is being cleared for initial construction of the USN Supply Center. In the far eastern portion of the site is a deposit of fill (FL).

Penniman Ammunitions Plant features and surface drainage patterns not visible in 1937 in the extreme eastern portion of the site are identified on this 1942 photograph.



Figure 4. USN Supply Center - Cheatham Annex, eastern portion, October 1, 1942. Approximate scale 1:20,120.

INTERPRETATION COI

BOUNDARIES AND LIMITS

- x-x-x-x-x FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
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- STUDY AREA

DRAINAGE

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- FLOW DIRECTION
- - - INDETERMINATE DRAINAGE

TRANSPORTATION/UTILIT

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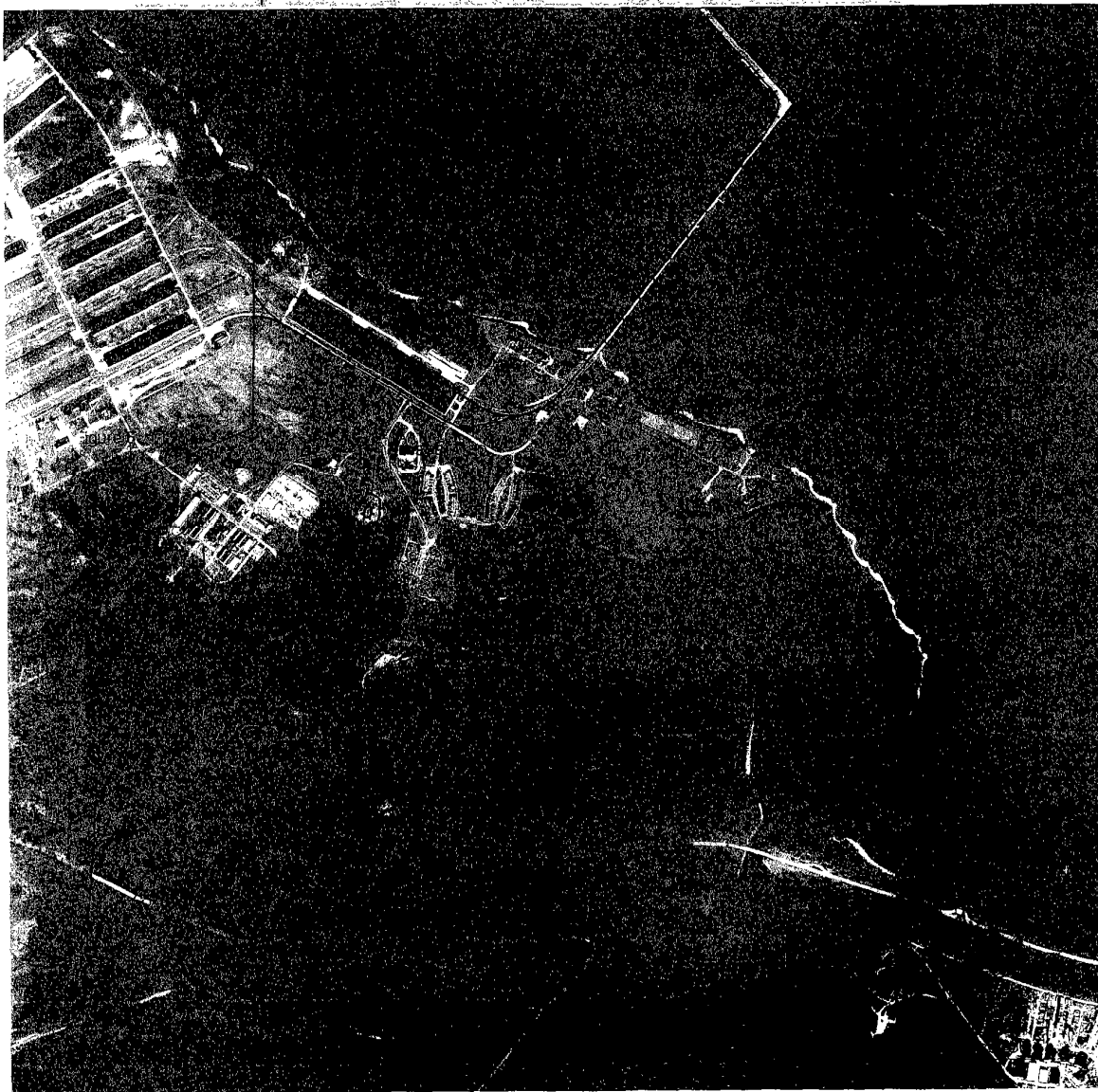
SITE FEATURES

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- SL STANDING LIQUID
- SL STANDING LIQUID
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- MM MOUNDED MATERI (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STRIP
- WD WASTE DISPOSAL AREA
- WV WETLAND VEGETATION

NOVEMBER 21, 1955 (FIGURE 5)

Light- and dark-toned solid waste are visible at AOC 1.

On the north shore of Penniman Lake is a partially revegetated deposit of fill. A possible outfall (OF) is visible to the west.



INTERPRETATION COI

BOUNDARIES AND LIMITS

- x-x-x-x-x FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- x x x x x FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- - - - INDETERMINATE DRAINAGE

TRANSPORTATION/UTILIT

- ===== VEHICLE ACCESS
- + + + + RAILWAY

SITE FEATURES

- ||||| DIKE
- SL STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, PIT (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STRIP
- WD WASTE DISPOSAL AREA
- WV WETLAND VEGETATION

Figure 5. USN Supply Center - Cheatham Annex, eastern portion, November 21, 1955 (1 of 2). Approximate scale 1:12,900.

NOVEMBER 21, 1955 (FIGURE 6)

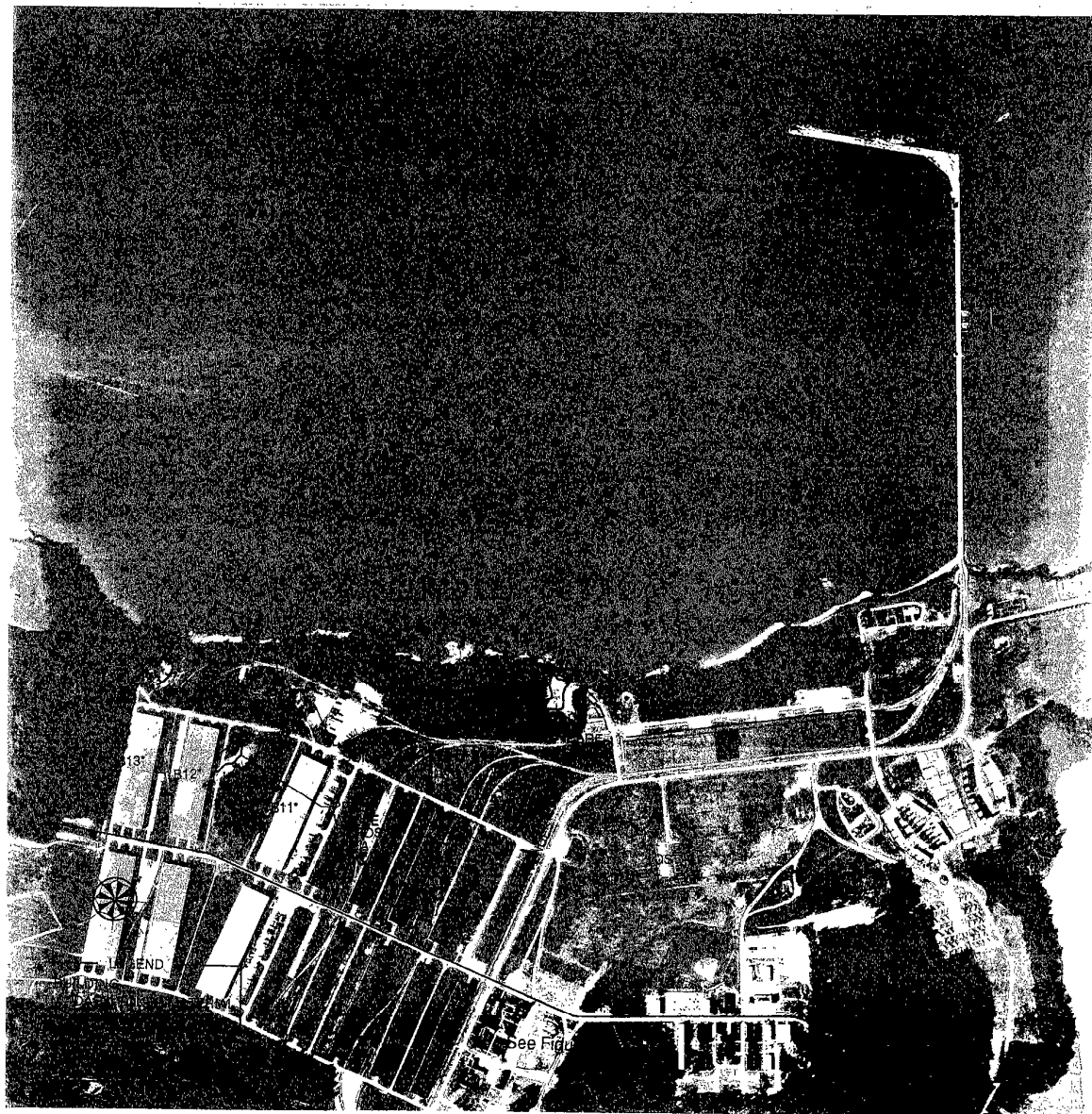
The road and railway infrastructure at the site is essentially completed. Adjacent to Building 13 (B13) is a partially revegetated excavation. South of Building 12 (B12) is a possible disposal area consisting of bare soil. Several open storage areas (OS) consisting of crates and other stored objects are present in this large building complex. At the south end of the building complex is a small stain (ST) at an open storage area.

East and north of Building 40 (B40) are areas of staining. North of Building 40 is AOC 2 (Contaminated Food Disposal Area) which consists of a revegetated mound and a trench (TR). West of Building 40 revegetated disturbed ground (DG) is evident. A drainage channel trends through the disturbed ground area toward Cheatham Pond. To the southwest two small deposits of dark-toned material (DTM) are visible. At AOC 11 southeast of Sanda Avenue is a small enclosure and several small unidentified objects. Drainage from AOC 11 flows into Penniman Lake where a small excavation is noted. Two possible disposal areas (and possible solid waste deposits) are seen to the west of AOC 11 and to the north is a large area of staining.

JUNE 27, 1960 (FIGURE 7)

The areal extent of AOC 1 has increased compared to 1955 and dark-toned material is visible.

A possible waste disposal area is noted northeast of Building 11 (B11). An access road and bare soil are present. Surface drainage flows through the area and eventually into the York River. East of Building 12 is the possible waste disposal area seen in 1955. No revegetation has occurred since 1955 indicating probable continued use of the area (AOC 4; Medical Supplies Disposal Area) for waste disposal.



INTERPRETATION CO

BOUNDARIES AND LIMITS

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
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TRANSPORTATION/UTILITIES

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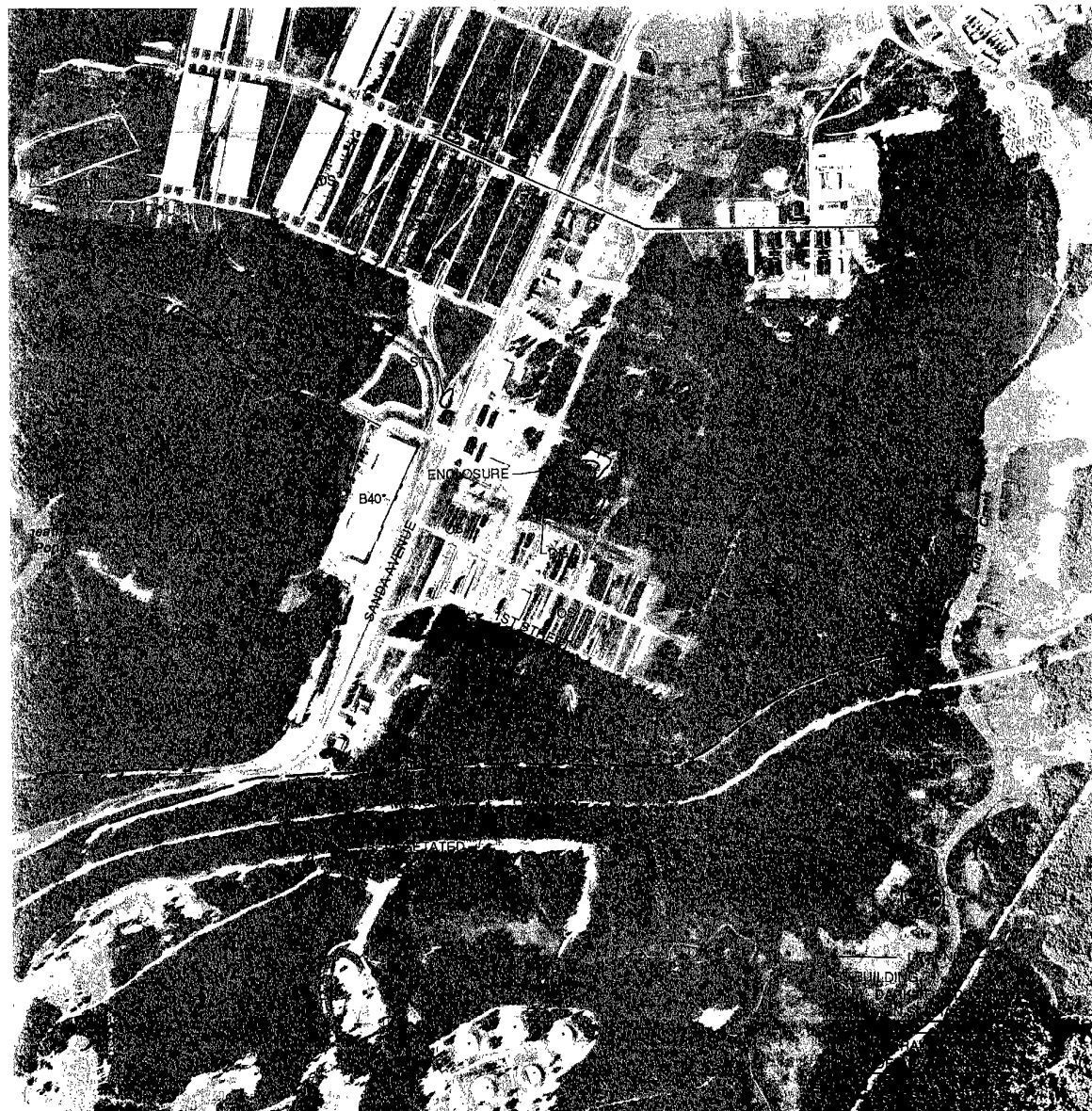
SITE FEATURES

- ||||| DIKE
- SL STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, PIT (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STRIP
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 7. USN Supply Center - Cheatham Annex, eastern portion, June 27, 1960 (1 of 2). Approximate scale 1:10,340.

JUNE 27, 1960 (FIGURE 8)

Grading marks are observed west of Building 14. Northeast of Building 40, staining continues to be present adjacent to the railroad tracks. To the southwest of Building 40, dark-toned material is still evident. Southeast of Sanda Avenue at AOC 11 the enclosure is present as in 1955. Bare soil is also present at AOC 11 and to the south. A small area of disturbed ground is present near AOC 11. Solid waste is present at one of the old possible disposal areas (seen in 1955) southwest of 1st Street.



INTERPRETATION CO

BOUNDARIES AND LIMIT

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILI

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- RAILWAY

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- DIKE
- STANDING LIQU
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- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STI
- WD WASTE DISPOSAL
- WV WETLAND VEGE

Figure 8. USN Supply Center - Cheatham Annex, eastern portion, June 27, 1960 (2 of 2). Approximate scale 1:10,240.

APRIL 3, 1963 (FIGURE 9)

The areal and vertical extent of solid waste at AOC 1 is larger compared to 1960. Northwest of AOC 1 is a revegetated mound (MM) of waste material where bare soil was noted in 1960. Mounded material is also visible to the south in the nearby drainageway. At AOC 4 southeast of Building 12, revegetation has not occurred since 1960. This may indicate continued waste disposal may have occurred. A small access road leads northwest from Building 14 to a shallow trench (TR) filled with liquid. This is the reported location of AOC 8 (Landfill near Warehouse 14). Staining persists northeast of Building 40 at the railroad tracks. Southeast of Sanda Avenue at AOC 11 a stain and two deposits of solid waste are noted. Another possible waste disposal area is seen south of AOC 11 at the end of an access road in a wooded area. Southwest of 1st Street the waste disposal area and the possible waste disposal area first seen in 1955 are completely revegetated.



INTERPRETATION CC

BOUNDARIES AND LIMIT

- x-x-x-x-x FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- x x x x x x FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTIL

- == VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- SL STANDING LIQUID
- EXCAVATION, P (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STAIN
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

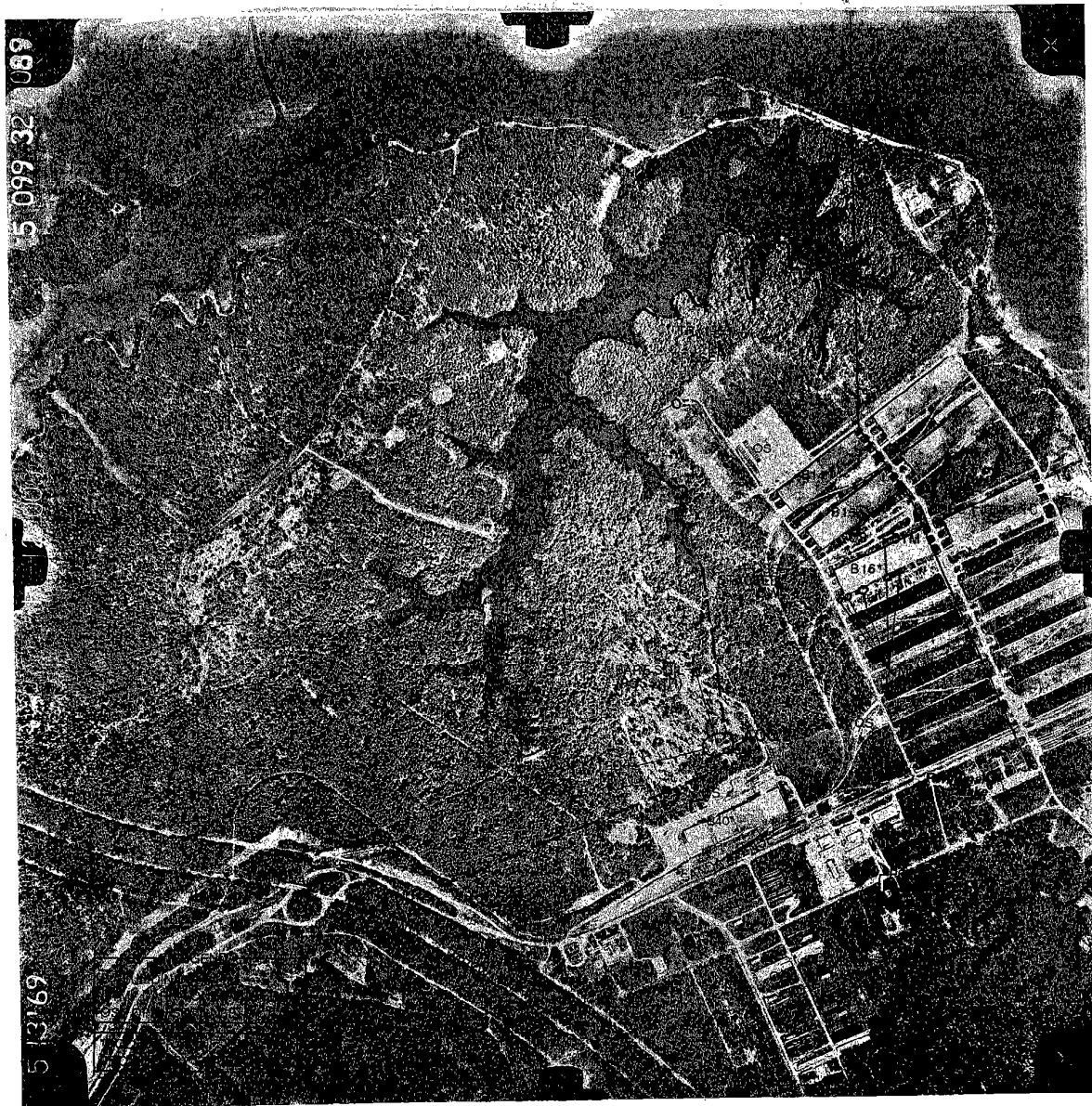
Figure 9. USN Supply Center - Cheatham Annex, eastern portion, April 3, 1963. Approximate scale 1:20,500.

MAY 13, 1969 (FIGURE 10)

Additional solid waste has been deposited at AOC 1 and the areal extent has increased since 1963. Standing liquid is evident at a small facility to the south. The standing liquid appears to flow into Penniman Lake. A large deposit of revegetated material is present next to Building 11. In 1963 a smaller amount of revegetated material was present. The areal extent of the excavation next to Building 13 has increased since 1963 and staining is also seen. This indicates probable waste disposal activity. AOC 4 is now revegetated indicating that probable waste disposal activities ceased at some point between 1960 and 1969.

MAY 13, 1969 (FIGURE 11)

Northwest of Building 14 the shallow trench seen in 1963 is not present. To the southwest is a small deposit of possible solid waste which is located at the end of an access road that originates near the vicinity of Building 14. Possible stacked solid waste is present at the east corner of Building 15. Five small deposits of material (one of which is dark-toned) are seen on the southeast side of Building 16. AOC 2 is north of Building 40 and consists of revegetated mounded material and bare soil that appears to be a filled trench. The material and trench were first observed in 1955. Possible drums, associated stains, and standing liquid are present at AOC 11.



INTERPRETATION CC

BOUNDARIES AND LIMIT

- X---X---X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTIO
- INDETERMINATI DRAINAGE

TRANSPORTATION/UTIL

- ==== VEHICLE ACCESS
- ++++ RAILWAY

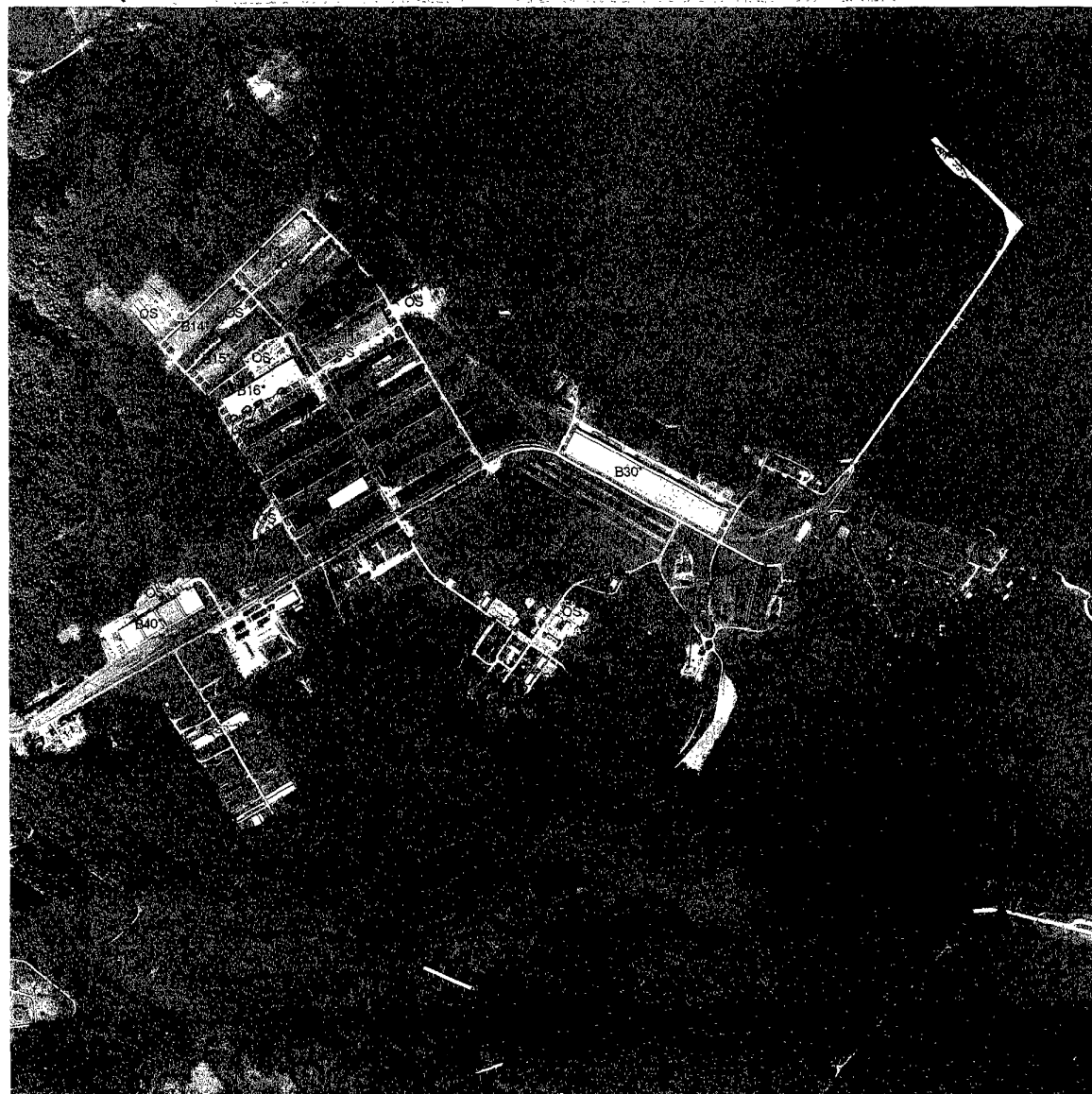
SITE FEATURES

- DIKE
- SL STANDING LIQU
- EXCAVATION, PI (EXTENSIVE)
- MOUNDED MATE (EXTENSIVE)
- MM MOUNDED MATE (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TA
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GRO
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STI
- WD WASTE DISPOSAL
- WV WETLAND VEGET

Figure 11. USN Supply Center - Cheatham Annex, eastern portion, May 13, 1969 (2 of 2). Approximate scale 1:12,000.

OCTOBER 23, 1975 (FIGURE 12)

AOC 1 is now partially revegetated indicating inactivity since 1969. The revegetated material near Building 11 (1969) is no longer visible; the excavation adjacent to Building 13 is revegetated and inactive; and the possible solid waste northwest of Building 14 (1969) is not visible. AOC 3 (Submarine Dye Disposal Area) is located at the eastern corner of Building 15. Dark-toned material and staining are present. Southeast of Building 16 are four deposits of mounded material where five such deposits had been observed in 1969. Southeast of Sanda Avenue AOC 11 is partially revegetated and appears to be inactive. No other environmentally significant features are observed in 1975.



INTERPRETATION CC

BOUNDARIES AND LIMIT

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILI

- VEHICLE ACCESS
- RAILWAY

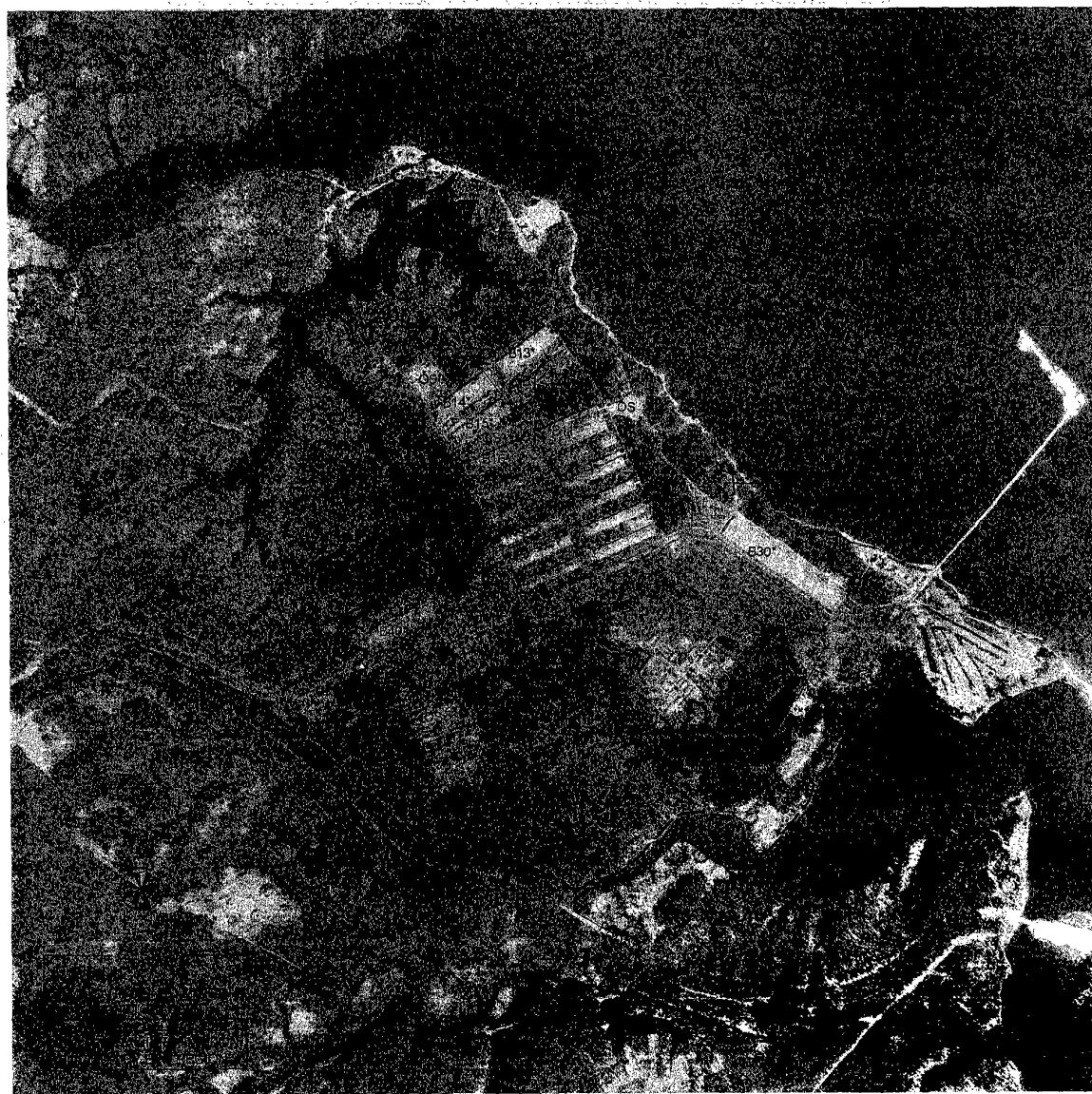
SITE FEATURES

- DIKE
- STANDING LIQUI
- SL STANDING LIQUI
- EXCAVATION, PI' (EXTENSIVE)
- MOUNDED MATE (EXTENSIVE)
- MM MOUNDED MATE (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TA
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GRO
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STR
- WD WASTE DISPOSAL
- WV WETLAND VEGET

Figure 12. USN Supply Center - Cheatham Annex, eastern portion, October 23, 1975. Approximate scale 1:13,930.

MARCH 17, 1989 (FIGURE 13)

The areal extent of the landfill at AOC 1 has increased since 1975 and one small dark stain is present. Dark-toned material is present at AOC 3 as it was in 1975. One large pile of probable solid waste is present southeast of Building 16. Northeast of Building 40 is standing liquid that is probably stormwater runoff. Possible grading is noted at the cleared area west of Building 40. A large deposit of dark-toned material is present in the open storage area southeast of Sanda Avenue.



INTERPRETATION CO

BOUNDARIES AND LIMITS

- X-X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILIT

- VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, PIT (EXTENSIVE)
- MOUNDED MATERI (EXTENSIVE)
- MM MOUNDED MATERI. (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STRESS
- WD WASTE DISPOSAL AREA
- WV WETLAND VEGETATION

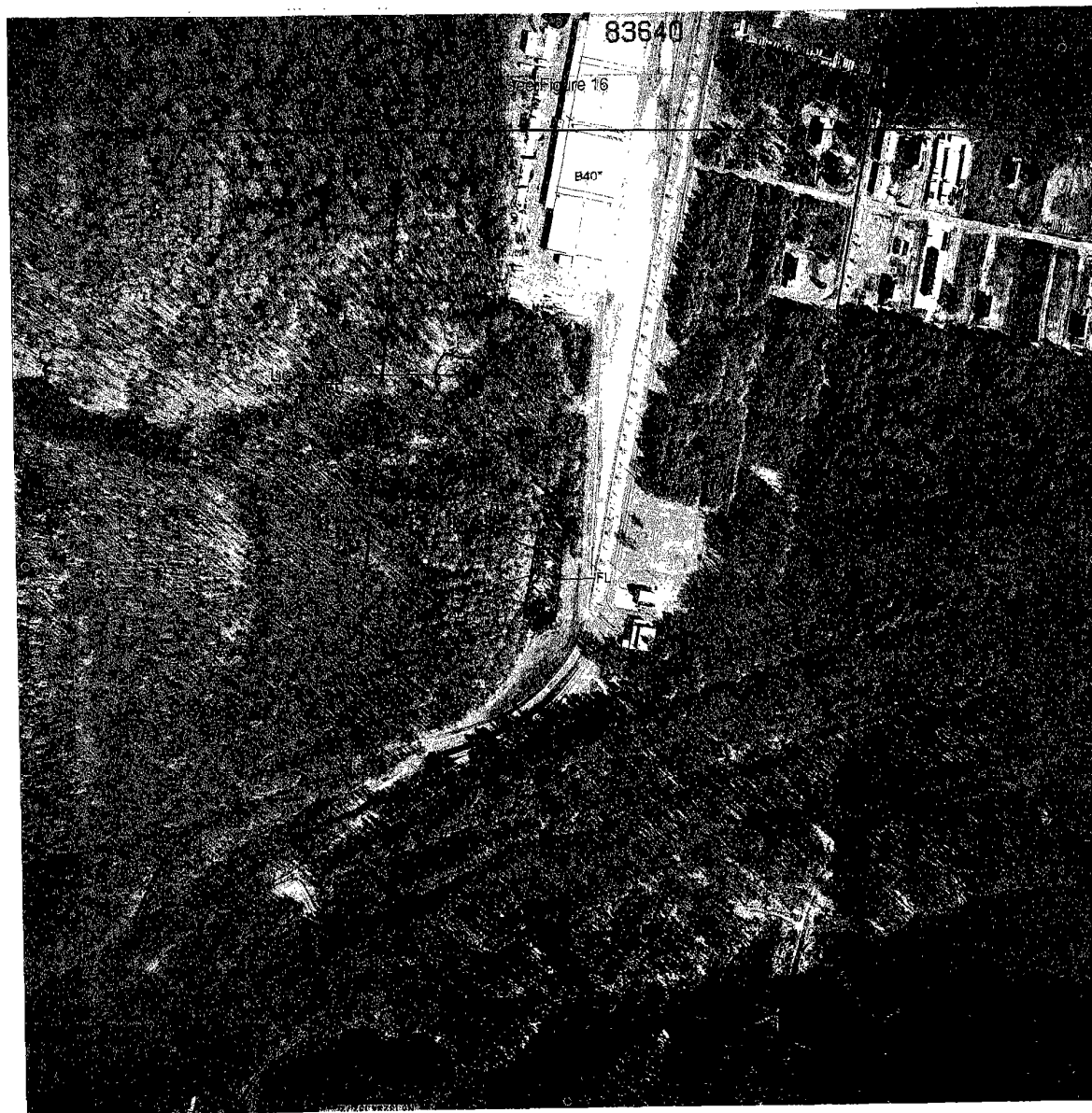
Figure 13. USN Supply Center - Cheatham Annex, eastern portion, March 17, 1989. Approximate scale 1:18,800.

JANUARY 1, 1998 (FIGURE 14)

Adjacent to Building 13 is an open storage area containing shipping containers, crates, propellers, metal framing, eight tanks, nine drums, and numerous small boat hulls. Similar types of stored items are noted next to Building 14. In the field north of Building 14 are numerous small naval boats, metal framing, and large shipping containers. North of the field, land clearing is in progress and a large mound of fill is present.

JANUARY 1, 1998 (FIGURE 15)

West of Building 40 is the area of disturbed ground first observed in 1955. The area consists of revegetated disturbed ground and a small mound of light- and dark-toned solid waste. Bare soil is evident next to the solid waste which possibly indicates continued use of the area for waste disposal. An access road leads from Building 40 to the disturbed area. To the southwest is a rectangular excavation probably caused by dismantling of the railroads in this area. At the bottom of the excavation are five mounds of fill. Additional fill appears to have been spread on the remainder of the ground surface within the excavation.



INTERPRETATION CC

BOUNDARIES AND LIMIT

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTIC
- INDETERMINAT DRAINAGE

TRANSPORTATION/UTIL

- VEHICLE ACCES
- RAILWAY

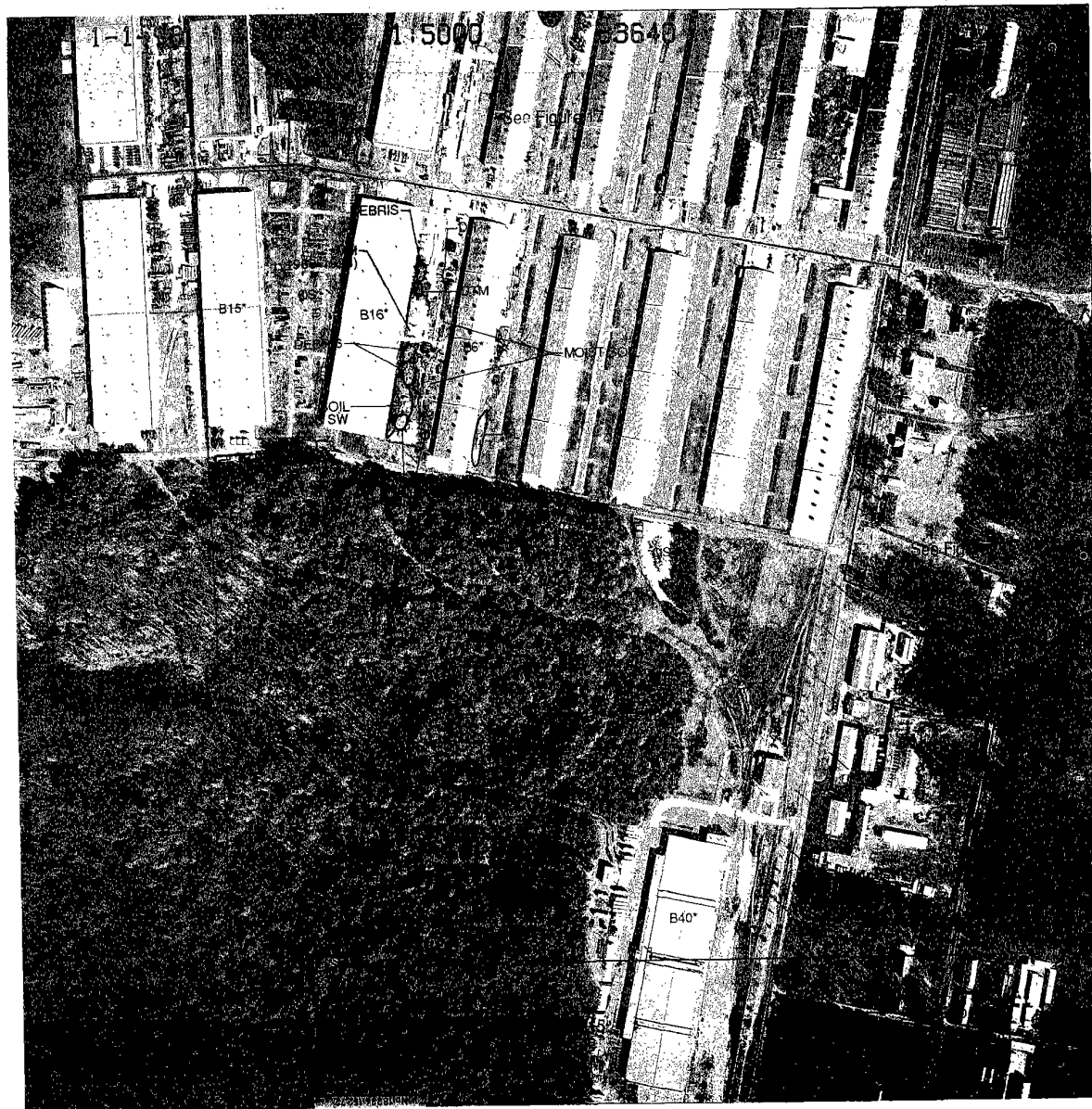
SITE FEATURES

- DIKE
- STANDING LIQU
- SL STANDING LIQU
- EXCAVATION, PI (EXTENSIVE)
- MOUNDED MATE (EXTENSIVE)
- MM MOUNDED MATE (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL T
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GRC
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION ST
- WD WASTE DISPOSAL
- WV WETLAND VEGE

Figure 15. USN Supply Center - Cheatham Annex, eastern portion, January 1, 1998 (2 of 7). Approximate scale 1:5,040.

JANUARY 1, 1998 (FIGURE 16)

Five piles of debris, one of which contains dark-toned material, are present between Buildings 16 and 6. Moist soil and soil mixed with solid waste are also observed. One small accumulation of drums is also present between the buildings. According to background information, AOC 9 was located at the west corner of Building 16, but it is not observed. Fill is present on the southeast side of Building 6 due to removal of railroad tracks in this area. Disturbed ground also due to removal of railroad tracks is seen northeast of Building 40. An old access road leading from Building 40 into an adjacent wooded area probably leads to the old AOC 2 location observed in 1955 and 1969.



INTERPRETATION CC

BOUNDARIES AND LIMIT

- X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTIO
- INDETERMINAT DRAINAGE

TRANSPORTATION/UTIL

- ==== VEHICLE ACCES
- ++++ RAILWAY

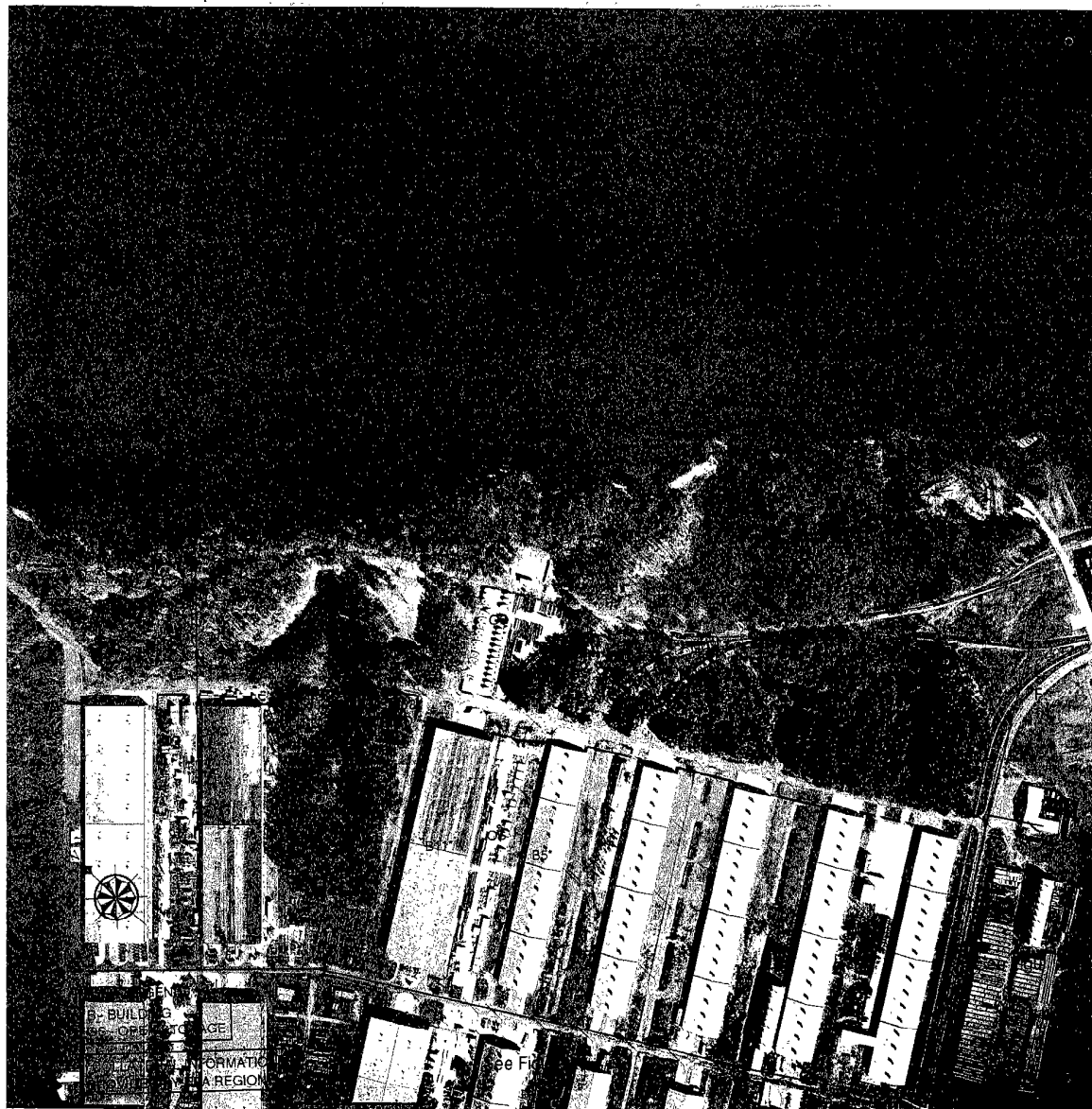
SITE FEATURES

- DIKE
- SL STANDING LIQU
- SL STANDING LIQU
- EXCAVATION, P (EXTENSIVE)
- MOUNDED MATI (EXTENSIVE)
- MM MOUNDED MATI (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL T.
- PT PRESSURE TANI
- VT VERTICAL TANI
- CA CLEARED AREA
- DG DISTURBED GRO
- FL FILL
- JM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION ST
- WD WASTE DISPOS
- WV WETLAND VEGI

Figure 16. USN Supply Center - Cheatham Annex, eastern portion, January 1, 1998 (3 of 7). Approximate scale 1:5,000.

JANUARY 1, 1998 (FIGURE 17)

AOC 1 is partially revegetated and two small areas of standing liquid are present on the bare soil portion of the old landfill. Two open storage areas containing shipping containers and large propellers are present next to Buildings 11 and 5.



INTERPRETATION C

BOUNDARIES AND LIMITS

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITIES

- ===== VEHICLE ACCESS
- ++++ RAILWAY

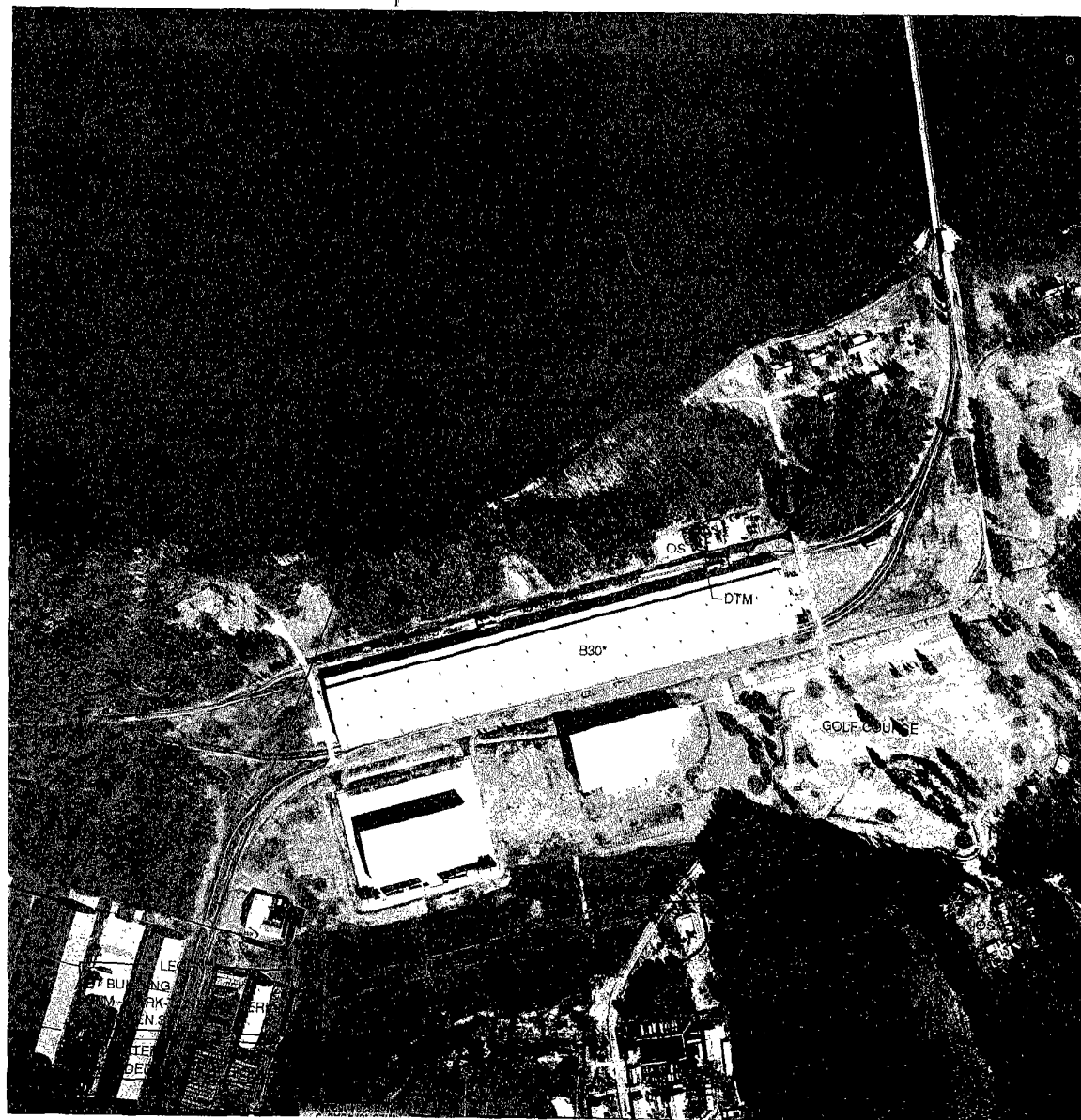
SITE FEATURES

- ||||| DIKE
- SL STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, (EXTENSIVE)
- MOUNDED MAT (EXTENSIVE)
- MM MOUNDED MAT (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION SPOTS
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 17. USN Supply Center - Cheatham Annex, eastern portion, January 1, 1998 (4 of 7). Approximate scale 1:5,000.

JANUARY 1, 1998 (FIGURE 18)

In an open storage area adjacent to Building 30 is a mound of dark-toned material and a small accumulation of drums. No other environmentally significant features are observed on this photograph.



INTERPRETATION CC

BOUNDARIES AND LIMIT

- X---X---X--- FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTIO
- INDETERMINATI DRAINAGE

TRANSPORTATION/UTIL

- VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- SL STANDING LIQU
- SL STANDING LIQU
- EXCAVATION, PI (EXTENSIVE)
- MOUNDED MATE (EXTENSIVE)
- MM MOUNDED MATE (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TA
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GRO
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STR
- WD WASTE DISPOSAL
- WV WETLAND VEGET.

Figure 18. USN Supply Center - Cheatham Annex, eastern portion, January 1, 1998 (5 of 7). Approximate scale 1:5,000.

JANUARY 1, 1998 (FIGURE 19)

A large grouping of buildings, an open storage area, and a recreational area are seen adjoining Penniman Lake. At AOC 11 the partially revegetated enclosure is visible due to excellent photographic resolution. Bare soil and standing liquid are also present. According to background material, AOC 5 is located immediately to the west of AOC 11 and AOC 6 is located to the west of the large open storage area; however, neither AOC is observed.



INTERPRETATION (

BOUNDARIES AND LIM

- X---X--- FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- XXXXXX FENCE
- STUDY AREA

DRAINAGE

- -- DRAINAGE
- -- FLOW DIRECTION
- -- INDETERMINATE DRAINAGE

TRANSPORTATION/UTIL

- ===== VEHICLE ACCESS
- +++++ RAILWAY

SITE FEATURES

- DIKE
- STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, F (EXTENSIVE)
- MOUNDED MAT (EXTENSIVE)
- MM MOUNDED MAT (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STAIN
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 19. USN Supply Center - Cheatham Annex, eastern portion, January 1, 1998 (6 of 7). Approximate scale 1:5,000.

JANUARY 1, 1998 (FIGURE 20)

The large deposit of dark-toned material appears as it did in 1989. To the southeast a small amount of mounded material is noted. According to collateral information, AOC 10 was located directly southeast of the dark-toned material in a wooded area, but it is not observed.



INTERPRETATION COI

BOUNDARIES AND LIMITS

X X X X X X FENCED SITE
BOUNDARY

UNFENCED SITE
BOUNDARY

X X X X X X FENCE

STUDY AREA

DRAINAGE

DRAINAGE

FLOW DIRECTION

INDETERMINATE
DRAINAGE

TRANSPORTATION/UTILIT'

VEHICLE ACCESS

RAILWAY

SITE FEATURES

DIKE

STANDING LIQUID

SL STANDING LIQUID

EXCAVATION, PIT
(EXTENSIVE)

MOUNDED MATERI,
(EXTENSIVE)

MM MOUNDED MATERI,
(SMALL)

CR CRATES/BOXES

DR DRUMS

HT HORIZONTAL TANK

PT PRESSURE TANK

VT VERTICAL TANK

CA CLEARED AREA

DG DISTURBED GROUND

FL FILL

IM IMPOUNDMENT

LG LAGOON

OF OUTFALL

SD SLUDGE

ST STAIN

SW SOLID WASTE

TR TRENCH

VS VEGETATION STRESS

WD WASTE DISPOSAL AREA

WV WETLAND VEGETATION

Figure 20. USN Supply Center - Cheatham Annex, eastern portion,
January 1, 1998 (7 of 7). Approximate scale 1:5,000.

USN Supply Center - Cheatham Annex, Western Portion

APRIL 17, 1937 (FIGURE 21)

The future location of the western portion of the USN Supply Center consists of forestland and Jones Millpond, a large reservoir.



INTERPRETATION C

BOUNDARIES AND LIMITS

- X-X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITIES

- ===== VEHICLE ACCESS
- ++++ RAILWAY

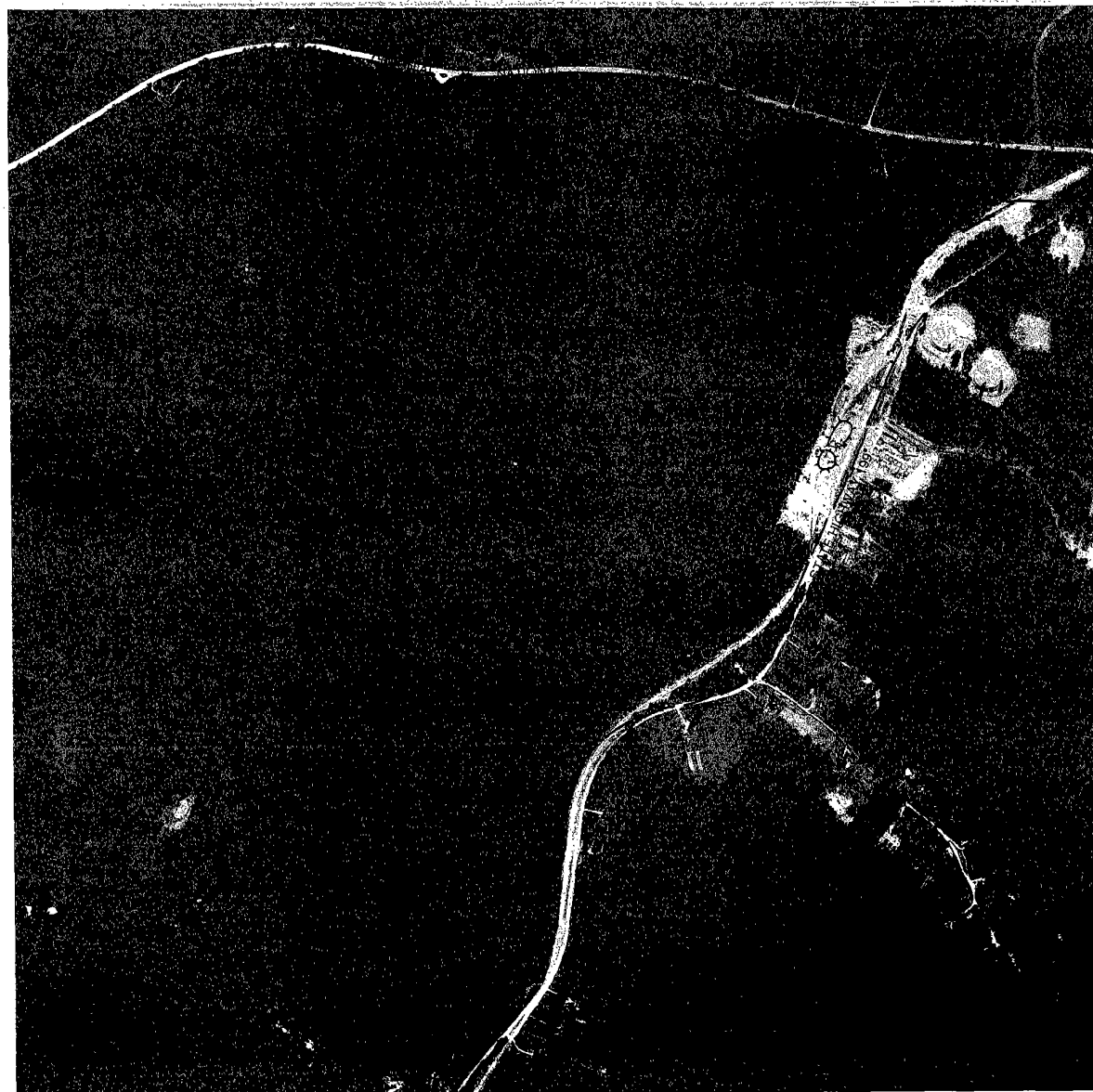
SITE FEATURES

- ||||| DIKE
- SL STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, P (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STAIN
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 21. USN Supply Center - Cheatham Annex, western portion, April 17, 1937. Approximate scale 1:9,050.

OCTOBER 1, 1942 (FIGURE 22)

Adjacent to State Highway 199 is a small railyard which is under construction. Mounded fill is present and other materials used for construction are visible on the east side of the State Highway 199.



INTERPRETATION C

BOUNDARIES AND LIMITS

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- > DRAINAGE
- > FLOW DIRECTION
- > INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITIES

- ===== VEHICLE ACCESS
- ++++ RAILWAY

SITE FEATURES

- ||||| DIKE
- SL STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, P (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STAIN
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 22. USN Supply Center - Cheatham Annex, western portion, October 1, 1942. Approximate scale 1:8,820.

NOVEMBER 21, 1955 (FIGURE 23)

Three mounded deposits of fill are noted at the north end of the small railyard. To the south two railcars and a water tank are present. A small dark-toned mound of material is present at AOC 12 (Disposal Site near Water Tower).



INTERPRETATION C

BOUNDARIES AND LIM

- X-X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UT

- ===== VEHICLE ACCESS
- ++++ RAILWAY

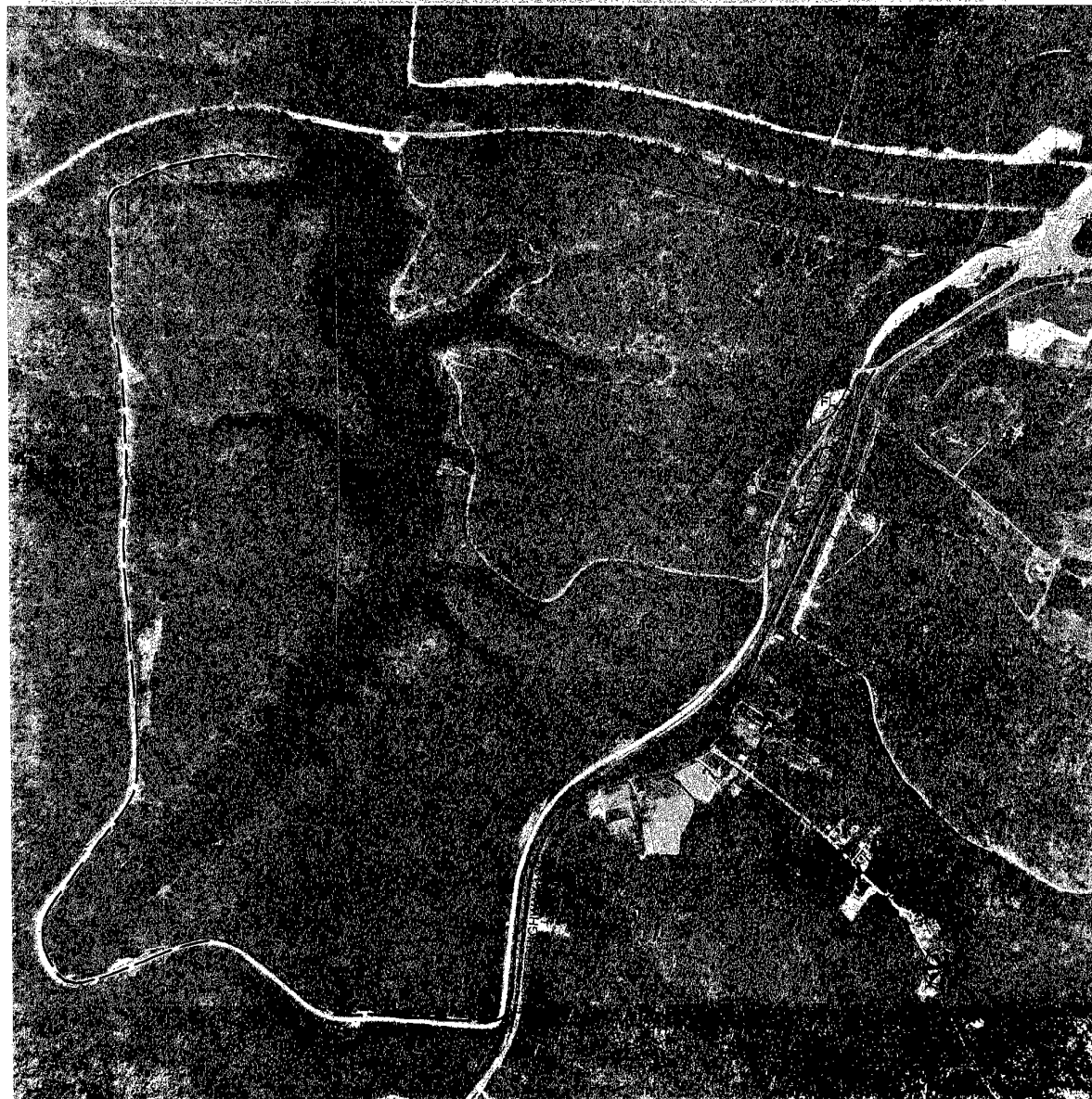
SITE FEATURES

- DIKE
- SL STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FI FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 23. USN Supply Center - Cheatham Annex, western portion, November 21, 1955. Approximate scale 1:8,220.

APRIL 3, 1963 (FIGURE 24)

A large deposit of fill is present at the north end of the railyard. To the south three additional deposits of fill, a small deposit of dark-toned material, and a large crane are noted. One large deposit of dark-toned mounded material is seen north of the water tower. The dark-toned material seen at AOC 12 in 1955 is no longer present.



INTERPRETATION C

BOUNDARIES AND LIM

- X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECT
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTI

- ===== VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- SL STANDING LIC
- EXCAVATION, (EXTENSIVE)
- MOUNDED MA (EXTENSIVE)
- MM MOUNDED MA (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 24. USN Supply Center - Cheatham Annex, western portion, April 3, 1963. Approximate scale 1:8,160.

OCTOBER 23, 1975 (FIGURE 25)

Five small mounds of fill are noted north of the water tank. No significant features are associated with AOC 12.



INTERPRETATION C

BOUNDARIES AND LIM

- X-X-X-X-X FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- X X X X X FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECT
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITY

- VEHICLE ACCESS
- RAILWAY

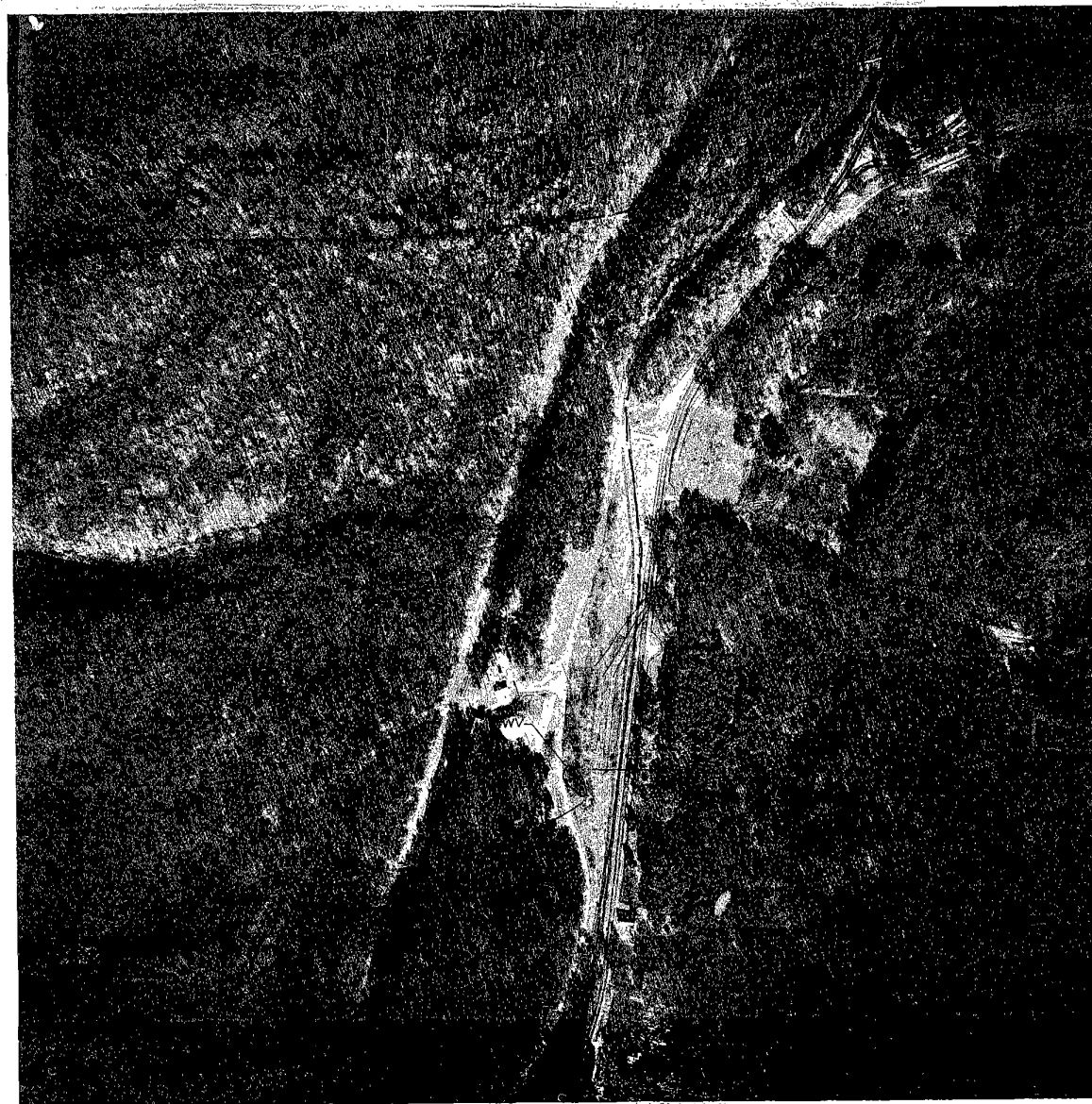
SITE FEATURES

- DIKE
- STANDING LIQUID
- SL STANDING LIQUID
- EXCAVATION, (EXTENSIVE)
- MOUNDED MATERIAL (EXTENSIVE)
- MM MOUNDED MATERIAL (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 25. USN Supply Center - Cheatham Annex, western portion, October 23, 1975. Approximate scale 1:9,490.

January 1, 1998 (FIGURE 26)

Three dismantled railroad tracks are observed on this photograph. The water tank seen in 1975 is no longer present and AOC 12 is inactive. A small wetland is visible nearby.



INTERPRETATION C

BOUNDARIES AND LIMITS

- x-x-x-x-x FENCED SITE BOUNDARY
- UNFENCED SITE BOUNDARY
- x x x x x FENCE
- STUDY AREA

DRAINAGE

- DRAINAGE
- FLOW DIRECTION
- INDETERMINATE DRAINAGE

TRANSPORTATION/UTILITIES

- ==== VEHICLE ACCESS
- RAILWAY

SITE FEATURES

- DIKE
- SL STANDING LIQUID
- EXCAVATION, F (EXTENSIVE)
- MOUNDED MAT (EXTENSIVE)
- MM MOUNDED MAT (SMALL)
- CR CRATES/BOXES
- DR DRUMS
- HT HORIZONTAL TANK
- PT PRESSURE TANK
- VT VERTICAL TANK
- CA CLEARED AREA
- DG DISTURBED GROUND
- FL FILL
- IM IMPOUNDMENT
- LG LAGOON
- OF OUTFALL
- SD SLUDGE
- ST STAIN
- SW SOLID WASTE
- TR TRENCH
- VS VEGETATION STAIN
- WD WASTE DISPOSAL
- WV WETLAND VEGETATION

Figure 26. USN Supply Center - Cheatham Annex, western portion, January 1, 1998. Approximate scale 1:5,000.

GLOSSARY

Access Road - A paved or unpaved route of vehicular access.

Dark-, Medium-, or Light-Toned - Tones of features in question are compared with the darkest and lightest tones of gray (if using B&W photography) on the print.

Debris - The remains of anything that can be identified as being broken down, destroyed, demolished, or dismantled.

Disturbed Ground (DG) - A rough area where the ground surface has been dug up or overturned.

Drums (DR) - Metal cylinders used for the storage, transportation, or disposal of materials.

Fill (FL) - Earth, stones, or other material that is used to build up the level of an area of ground.

Mounded Material (MM) - Piles of raw or waste materials on or in the vicinity of the site.

Outfall (OF) - The place where an effluent is discharged into the environment.

Solid Waste (SW) - Any garbage, refuse, or sludge from a waste treatment, water supply treatment plant, or air pollution control facility, and other discarded material, including solid or semi-solid material resulting from industrial, commercial, mining, and agricultural operations, and from community activities; does not include solid or dissolved material in domestic sewage, or solid or dissolved materials in irrigation return flows or industrial discharges.

Stain (ST) - A residue or discoloration resulting from a spill, discharge, or removed/dispersed materials.

Standing Liquid (SL) - A small, shallow, temporary collection of liquid, not necessarily waste. Not to include liquid contained in impoundments, trenches, pits, etc.

Tanks - Vertical tanks (VT), horizontal tanks (HT), pressure tanks (PT), tank farms, and solid waste management units. A large receptacle, container, or structure for holding liquid or gas.

Trench (TR) - A long, narrow excavation unrelated to drainage.

Waste Disposal Area - An area where waste materials are discarded.

Wetlands Vegetation (WV) - Vegetation typically adapted for life in inundated, saturated, or periodically inundated or saturated soil conditions.